(AOR, 0.68; 95% CI, 0.59-0.79; $P < .001$), Asian American race (AOR, 0.46; 95% CI, 0.35-0.61; $P < .001$), Hispanic ethnicity (AOR, 0.56; 95% CI, 0.48-0.65; $P < .001$), no insurance (AOR, 0.61; 95% CI, 0.47-0.80; $P < .001$), and no health care visit (AOR, 0.65; 95% CI, 0.53-0.81; $P < .001$). Variables associated with increased odds of surgery included maternal education beyond high school (AOR, 1.25; 95% CI, 1.04-1.50; $P = .02$), North Central/Midwest region (AOR, 1.34; 95% CI, 1.14-1.58; $P < 001$), Southern region (AOR, 1.33; 95% CI, 1.14-1.55; $P < .001$), low birth weight (AOR, 1.59; 95% CI, 1.35-1.88; $P < .001$), trisomy 21 (AOR, 3.02; 95% CI, 1.58-8.65; $P = .003$), and congenital heart disease (AOR, 4.37; 95% CI, 2.37-8.06; $P < .001$).

Discussion | Using a large, nationally representative cross-sectional survey, we observed a decline in odds of surgery from 1998 to 2017 that was most significant in children younger than 1 year. We controlled for demographic variables and clinical factors expected to impact surgical exposure. While surgical techniques have continually evolved, we are unaware of drastic changes in surgical management for infants during this period. Our findings support the hypothesis that alternative factors including parental and practitioner concerns about anesthetic exposure may have affected surgical decision-making in infants. Interestingly, while maternal education may improve awareness of anesthesia risk, this was associated with increased odds of surgery. This study was limited by lack of data on procedure type, anesthetic details, associated outcomes, and inability to control for all confounders. We therefore recommend further prospective studies assessing these trends and associated health outcomes.

Conclusions | The period prevalence and adjusted odds of surgery declined significantly from 1997 through 2017 for children younger than 1 year. The clinical and nonclinical factors affecting the use of surgical intervention in infants merit further investigation.

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Population-Based Analysis of Temporal Trends in the Prevalence of Depressed Mood Among Sexual Minority and Heterosexual Youths From 1999 Through 2017

Depression in adolescence is highly prevalent and associated with negative long-term outcomes.[1] Despite decades of research on treatment for adolescent depression, sexual minority youths remain a particularly at-risk group.[2] Temporal trends inform progress in addressing the need to eliminate health disparities among sexual minority populations.[3] To our knowledge, this study presents the first population-representative analysis of temporal trends in depressed mood among sexual minority and heterosexual youths. An 18-year period is examined.

Methods | The Youth Risk Behavior Surveillance System (YRBSS) obtains biannual data representative of students in grades 9 through 12 using a multistage cluster-sample design.[4] Data were drawn from the Massachusetts YRBSS for calendar years 1999 through 2017. This study did not undergo institutional review board review at any institution but was believed by the authors to be exempt because the dataset used is publicly available for use (https://www.cdc.gov/healthyyouth/data/yrbs/data.htm). These analyses used previously collected data through the YRBSS, a national survey conducted by the US Centers for Disease Control and Prevention, who works with local schools to collect data and obtain parental permission.

Sexual minority status was assessed with 2 items: self-reported sexual identity and same-sex behavior. For sexual identity, respondents were classified as members of sexual minorities if they self-identified as gay, lesbian, bisexual, or unsure. For same-sex behavior, respondents who endorsed

Table 1. Sample Demographics and 12-Month Prevalence of Depressed Mood Among Sexual Minority and Heterosexual Youths

Year	Non-Hispanic White Participants, No. (%)			Weighted Estimates of 12-mo Prevalence of Depression, % (SE)		
	Sexual Minority Youths	Sexual Minority Youths, Excluding Those Reporting Being Unsure[a]	Heterosexual Youths	Sexual Minority Youths	Sexual Minority Youths, Excluding Those Reporting Being Unsure[a]	Heterosexual Youths
Sexual Identity						
1999	128 (52.2)	78 (66.1)	2980 (72.0)	51.4 (4.44)	57.2 (4.77)	29.3 (1.11)
2001	147 (62.0)	88 (68.2)	2806 (73.1)	52.2 (2.71)	62.5 (3.97)	27.3 (1.15)
2003	135 (59.2)	75 (59.5)	2467 (73.3)	55.3 (3.92)	65.4 (3.91)	25.9 (0.97)
2005	109 (53.7)	80 (57.1)	2046 (63.4)	49.3 (3.88)	55.2 (4.66)	25.7 (0.83)
2007	123 (54.0)	97 (55.6)	1913 (66.7)	54.8 (3.84)	59.8 (5.07)	21.7 (0.95)
2009	120 (56.3)	96 (58.9)	663 (65.0)	53.3 (3.53)	57.0 (3.92)	21.6 (1.07)
2011	146 (58.2)	112 (60.2)	1626 (66.1)	44.1 (2.76)	49.1 (2.80)	23.3 (0.95)
2013	99 (50.0)	66 (50.0)	1603 (63.8)	45.7 (4.08)	49.5 (4.88)	19.8 (0.98)
2015	173 (50.1)	121 (49.4)	1533 (55.8)	55.3 (3.13)	61.1 (3.28)	23.9 (1.02)
2017	197 (42.5)	139 (42.8)	1296 (46.6)	51.9 (2.48)	56.0 (3.93)	23.7 (1.08)
Sexual Behavior						
1999	114 (64.8)	NA	3116 (70.6)	48.7 (5.06)	NA	35.5 (1.34)
2001	107 (69.0)	NA	1473 (72.2)	44.6 (4.43)	NA	33.9 (1.57)
2003	96 (58.9)	NA	1309 (73.3)	58.0 (4.45)	NA	32.1 (0.94)
2005	105 (59.3)	NA	1101 (64.4)	50.6 (4.61)	NA	30.2 (1.40)
2007	136 (62.7)	NA	1088 (65.9)	50.2 (3.17)	NA	26.7 (1.17)
2009	107 (56.0)	NA	1109 (63.4)	53.9 (3.81)	NA	26.4 (1.61)
2011	100 (58.8)	NA	920 (66.3)	52.2 (4.11)	NA	27.0 (1.37)
2013	81 (56.6)	NA	807 (65.8)	45.8 (4.57)	NA	24.2 (1.63)
2015	95 (49.0)	NA	804 (58.0)	59.0 (4.54)	NA	29.1 (1.77)
2017	120 (45.3)	NA	626 (49.1)	53.8 (3.93)	NA	29.5 (1.69)

Abbreviation: NA, not applicable.

[a] Sexual minority youths who reported being unsure were included in analyses for sexual identity only.

having same-sex partners in their lifetime were classified as sexual minority youths. Respondents who reported no sexual partners were excluded from analyses examining sexual behavior. Youths were asked about feeling depressed and/or hopeless in the past year with the question, "During the past 12 months, did you ever feel so sad or hopeless almost every day for 2 weeks or more in a row that you stopped doing some usual activities?"

Depressed mood was stratified by sexual minority status and weighted to obtain population-representative estimates. Join point regression was conducted to quantify annual percentage change with 95% CIs. Trends are presented as linear segments connected at the years (ie, join points) when the slope of the trend changed significantly. A straight line was fitted over the full period based on a simple log linear model if no significant change in trend was observed. Analyses were conducted separately for sexual identity and behavior. A sensitivity analysis was conducted in the first case, excluding respondents unsure of their sexual identity. The percentage of non-Hispanic white youths who completed the survey are presented. These data provide an overview of the racial/ethnic diversity in the YRBSS survey sample, notably that youth who completed the survey between 1999 and 2017 were predominantly non-Hispanic and white.

Join point statistical software (Joinpoint Regression Program version 4.7.0.0 [National Cancer Institute]) was used for analyses of trends using join point models. All *P* value of .05 or less were considered significant. Data analysis occurred in February 2019.

Results | The unweighted total study population was 33 456 individuals. The percentage of non-Hispanic white youths in the sample ranged from 42.5% among sexual minority youths reporting sexual identity in 2017 to 73.3% among heterosexual youths reporting sexual behavior in 2003 (**Table 1**).

Table 1 presents depressed mood prevalence rates stratified by sexual identity and behavior. Analyses based on sexual identity (**Table 2**) revealed heterosexual youths demonstrated a significant decrease in depressed mood from 1999 to 2013 (annual percentage change, −2.31% [95% CI, −3.67% to −0.92%]; *P* = .01), with no significant change from 2013 to 2017. A significant decline was not observed for sexual minorities from 1999 to 2017. In a sensitivity analysis, the trend for sexual minorities remained nonsignificant. When sexual orientation was based on sexual be-

Table 2. Annual Percentage Change in 12-Month Prevalence of Depressed Mood Among Sexual Minority and Heterosexual Youths, 1999-2017

Category	Period	Annual Percentage Change (95% CI)	*P* Value
Sexual identity			
Heterosexual youths	1999-2013	−2.31 (−3.67 to −0.92)	.01
Heterosexual youths	2013-2017	4.26 (−6.90 to 16.75)	.39
Sexual minority youths	1999-2017	−0.11 (−1.04 to 0.83)	.79
Sexual minority youths, excluding those reporting being unsure[a]	1999-2017	−0.61 (−1.80 to 0.60)	.28
Sexual behavior			
Heterosexual youths	1999-2009	−3.33 (−4.93 to −1.70)	.003
Heterosexual youths	2009-2017	1.49 (−1.61 to 4.69)	.28
Sexual minority youths	1999-2017	0.53 (−0.60 to 1.67)	.32

[a] Sexual minority youths who reported being unsure were included in analyses for sexual identity only.

havior, a significant decrease in depressed mood was observed for heterosexual youths (annual percentage change, −3.33% [95% CI, −4.93% to −1.70%]; *P* = .003), but not sexual minority youths, between 1999 and 2009.

Discussion | Prevalence of depressed mood across all years was high, with especially concerning rates reported in sexual minority youths across the study period. The current study found evidence of a decline in depressed mood among heterosexual youths over time, while depressed mood rates among sexual minority peers have remained largely unchanged in nearly 2 decades. These findings collectively suggest that disparities in rates of feeling depressed in sexual minority youths populations have not improved over the last 18 years.

Limitations of this study include its reliance on a single-item measure of depressed mood. Additionally, as the current study drew from the Massachusetts YRBSS, the degree to which current findings generalize to other populations awaits future research.

Research studies across pediatric health care disciplines that prioritize screening of sexual minority youths for depression are needed. These findings lend urgency to the need for studies evaluating effectiveness of existing treatments for adolescent depression in this population[5] and support the importance of identifying and testing the effectiveness of tailored intervention components targeting the specific needs of sexual minority youths.[6] Addressing mental health disparities remains a priority in research and clinical practice, and there is much opportunity for progress in addressing this public health concern.

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Drafting of the manuscript: All authors.
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National Prevalence of Pain Among Children and Adolescents With Autism Spectrum Disorders

Pain is a leading contributor to the global morbidity and disability burden.[1] Pediatric pain is especially problematic, as it may impede healthful development into and throughout adulthood.[2] For children with autism spectrum disorders (ASD), pain is a highly understudied area, perhaps owing to the misguided historical impression that children with ASD have lower pain sensitivity.[3] However, recent evidence has contra-